REMARKS

In an Office Action dated March 24, 2005, the Examiner rejected claims 1-5, 7-11, 21-24, 35, and 38 under 35 U.S.C. §103(a) as being unpatentable over Gwon et al. (U.S. patent application no. 2003/0104814, hereinafter referred to as "Gwon") in view of Soininen et al. (U.S. patent application no. 2002/0049059, hereinafter referred to as "Soininen") and further in view of Mizell et al. (U.S. patent no. 6,670,344, hereinafter referred to as "Mizell"). The Examiner rejected claims 6, 12-13, 17, 20, 28, 30, 34, 36-37, and 39 under 35 U.S.C. §103(a) as being unpatentable over Gwon in view of Soininen and Mizell and further in view of Lupien et al. (U.S. patent no. 6,463,005). The Examiner rejected claims 14-16, 25-27, and 32-33 under 35 U.S.C. §103(a) as being unpatentable over Gwon in view of Soininen and Mizell and further in view of Vaara (U.S. patent no. 6,400,951). The Examiner rejected claim 31 under 35 U.S.C. §103(a) as being unpatentable over Gwon in view of Soininen, Mizell, Vaara, and Lupien, and rejected claims 18-19, 29, and 40-45 under 35 U.S.C. §103(a) as being unpatentable over Gwon in view of Mizell, Lupien, and Vaara. The rejections are traversed and reconsideration is hereby respectfully requested.

The Examiner rejected claims 1-5, 7-11, 21-24, 35, and 38 under 35 U.S.C. §103(a) as being unpatentable over Gwon in view of Soininen and Mizell. More specifically, with respect to claims 1 and 21 the Examiner stated that Gwon teaches a method and system of handoff comprising registering a mobile station (FIG. 2, mobile node 135) with a first Serving GPRS Support Node (SGSN) (FIG. 2, a first Foreign Agent 145), wherein the first SGSN services a first Base Station System (BSS) (FIG. 1, a first Access Point (AP) 155 that is connected to the first Foreign Agent (FA)) that provides communication services to the mobile station (page 4, paragraph 0043), assembling a Neighbor List (page 3, paragraph 0016 and page 5, paragraph 0052) that comprises a plurality of communication channels, wherein a communication channel of the plurality of communication channels is associated with a second BSS that is serviced by a second SGSN that is different than the first SGSN (page 4, paragraph 0042 – a second AP 155 that communicates with a second FA), and at least partially registering the mobile station

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with the second SGSN prior to the mobile station being served by the second BSS (page 2, paragraph 0009, and page 5, paragraph 0049).

The Examiner acknowledged that Gwon does not explicitly teach an SGSN or a GGSN, but contended that Soininen teaches that an SGSN, a GGSN, and an FA may be co-located and integrated into a single node of a network (FIG. 1, page 4, paragraph 0040). As Gwon does not teach an SGSN, the Examiner further acknowledged that Gwon does not teach the SGSN processor of claim 21 but contended that Mizell teaches an SGSN with a memory (element 208 of FIG. 2) and processor (element 204 of FIG. 2) that is capable of carrying out the storing and executing functions relating to the registration and pre-registration of an SGSN, and that it would have been obvious to one of ordinary skill in the art to employ the SGSN of Mizell in the integrated FAs of Gwon.

Claims 1 and 21 have been amended to clarify that the claims concern a Layer 2 (L2) pre-registration. SGSNs are not FAs and their functionality is different. The FA is at Layer 3 (L3) (see paragraph 0039 of Gwon). The SGSN is part of Layer 2 (L2) and, accordingly, claims 1 and 21 concern an L2 pre-registration. By contrast, Gwon merely teaches an L3 pre-registration.

That is, Gwon teaches that, in the prior art, L3 registration with a target subnet could not occur until an L2 handoff is complete and that a mobile station (MS) could not receive data in the new subnet until completing the L3 registration and handoff. To avoid the resulting latency in data transfer, Gwon teaches establishing of a tunnel between an old FA and a new FA before an MS is able to perform an L3 registration and handoff with the new subnet and new FA. The tunnel allows the MS to receive data in the new subnet via the old subnet before completing an L3 registration in, and an L3 handoff to, the new subnet. This is merely an 'L3 pre-registration and handoff' data transfer; it is not an L2 pre-registration. In fact, in a GPRS (General Packet Radio System) system, an SGSN would be involved in the setting up of such a tunnel – as a result, any L2 pre-registration would occur prior to the setting up of the tunnel. Nowhere is such a pre-registration taught by Gwon. Furthermore, any teaching of a co-locating of an SGSN, a GGSN, and an FA does not change the fact that Gwon teaches FA functionality and an L3 pre-registration and handoff data transfer, not an L2 pre-registration.

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In addition, with respect to claim 2, the Examiner contended that Gwon teaches the step of at least partially registering by conveying, by the first SGSN to the second SGSN, at least a portion of registration information associated with the mobile station in that Gwon teaches that the first FA receives a handoff request from the mobile station and forwards the handoff request to the second, target FA. However, again, regardless of whether an SGSN, a GGSN, and an FA may be co-located, Gwon teaches FA functionality, which is different from SGSN functionality, and handoff requests are different from registrations, and nowhere does Gwon address authentication and registration for L2.

Therefore, Gwon does not teach the features of claims 1 and 21 of registering a mobile station with a first SGSN, wherein the first SGSN services a first Base Station System (BSS) that provides communication services to the MS, assembling a Neighbor List that comprises a communication channel that is associated with a second BSS that is serviced by a second SGSN that is different than the first SGSN, and at least partially performing a Layer 2 registration (or performing a Layer 2 pre-registration) of the MS with the second SGSN prior to the MS being served by the second BSS. Accordingly, the applicants respectfully contend that the features of claims 1 and 21 are not taught by any of Gwon, Soininen, or Mizell, individually or in combination, and request that claims 1 and 21 may be passed to allowance.

Since claims 2-20 depend upon allowable claim 1 and claims 22-39 depend upon allowable claim 21, the applicants respectfully request that claims 2-20 and 22-39 may now also be passed to allowance.

The Examiner rejected claims 18-19, 29, and 40-45 under 35 U.S.C. §103(a) as being unpatentable over Gwon in view of Mizell, Lupien, and Vaara. More specifically, with respect to claim 40, the Examiner stated that Gwon teaches a conveyance to an infrastructure of a request to pre-register the MS in a Service Area associated with a communication channel of a plurality of communication channels prior to the MS being served by a BSS associated with the communication channel. The Examiner acknowledged that Gwon does not teach an MS comprising a memory device and a processor, but contended that this is taught by Mizell. The Examiner further

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acknowledged that Gwon does not teach a Routing Area but contended that Lupien teaches that a Service Area is a Routing Area.

Claim 40 has been amended to clarify that the processor of the MS initiates an L2 SGSN pre-registration of the MS by conveying to an infrastructure a request to pre-register the MS in a Routing Area associated with a SGSN. As described in detail above, Gwon teaches FA functionality and an L3 pre-registration, which is different from the claimed L2 pre-registration. Furthermore, while Lupien teaches that an MSC may have a service area (col. 5, lines 50-55) and that an SGSN may have a service area (it is also well known that an Access Point (AP) may have a service area and a Base Station System (BSS) may have a service area), these service areas are each different concepts as the services provided in the respective service areas are dependent upon the network element associated with the respective service area. A provision of SGSN functionality to a corresponding service area, regardless of how labeled, cannot be equated to a provision of FA functionality to a corresponding service area, regardless of how labeled, and therefore the FA Service Area associated with a provision of FA functionality taught by Gwon cannot be construed to teach SGSN pre-registration in an SGSN Routing Area. Therefore, none of Gwon, Mizell, or Lupien, individually or in combination, teaches the features of claim 40 of an MS that initiates an L2 pre-registration of the MS by conveying to an infrastructure a request to pre-register the MS in a Routing Area associated with a SGSN and further associated with a communication channel prior to the MS being served by a BSS associated with the communication channel. Accordingly, the applicants respectfully request that claim 40 may be passed to allowance.

Since claims 41-45 depend upon allowable claim 40, the applicants respectfully request that claims 41-45 may now also be passed to allowance.

As the applicants have overcome all substantive rejections and objections given by the Examiner and have complied with all requests properly presented by the Examiner, the applicants contend that this Amendment, with the above discussion, overcomes the Examiner's objections to and rejections of the pending claims. Therefore, the applicants respectfully solicit allowance of the application. If the Examiner is of the opinion that

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any issues regarding the status of the claims remain after this response, the Examiner is invited to contact the undersigned representative to expedite resolution of the matter.

Respectfully submitted,
Stephen Spear et al.

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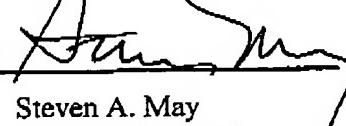
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